Fall 2015

CHEM 2117

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University of New Orleans

Chemistry 2117, Quantitative Analysis
Fall 2015
Tues/Thurs 11 AM - 12:15 PM; Meets in SC 2068

Instructor: Matthew Tarr
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Prerequisite: CHEM 1018

Description: A fundamental course intended for chemistry majors, premedical and medical technology students, and majors in biological sciences. The course covers basic measurement processes, basic statistics, equilibrium, and titrations. In addition, the course provides an introduction to electrochemical, spectroscopic, and separation techniques used in chemical analysis.

Credit: 3 credit hours

Text: *Quantitative Chemical Analysis*, 8th Ed., Daniel C. Harris, Freeman, ISBN: 978-0-7167-7041-1

Student Learning Objectives

Students who complete this course should have a basic understanding of quantitative analysis including precision, accuracy, basic statistics, equilibrium, titrations, and electrochemical, spectroscopic, and separation techniques.

Attendance Policy

Attendance will be taken each class period. 10% of your final grade will be based on attendance/participation.

Exam Schedule

Exam 1 - Sept 29	Exam 3 – Dec 1
Exam 2 – Nov 3	Final Exam – Due at noon on Dec 8

The chapters that each exam will cover are listed on the course schedule. Exams 1-3 will be in-class, closed book. A calculator is permitted. No notes are allowed. A list of important topics will be posted on Moodle prior to each exam. The final exam will consist of a written paper due at noon Central on Dec 8.

Final Exam

The final exam will consist of a formal paper that reports on a research article published in *Analytical Chemistry* from 2010 or later. The paper should be up to 3 pages (single or double spaced, up to you). All figures, tables, or other material taken from outside sources must be properly cited. These items should also be easily readable. The paper should clearly describe the research: what was done, how it was done, why it was done, what the important findings are, what impact the findings will have, and what future work is needed in the area. Your paper should not simply be a summary of the published paper, but rather a critical review of the work. Assessment of the good and bad points of the publication should be integral to your paper. The presentation should be clear enough that a freshman chemistry major can easily follow it, but it should also be detailed enough that an expert could benefit from its content. Citations to the publication as well as additional relevant research articles should be included using standard ACS formatting (see any ACS journal for format). Approximately 4-10 references should be used (citations are not part of the 3 page limit). The paper must be submitted electronically via Moodle/turnitin by **noon on Dec 8**.

Grading

Course grades will be determined from examination grades and classroom participation. During the semester three exams will be given. In addition to these three exams, a final exam will be due on Dec 8. All in class exams will be closed book and notes are not permitted. A calculator may be used, but no data can be stored in memory prior to the exam. Course grades will be assigned based on the following table:

Exam 1 ..... 20%
Exam 2 ..... 20%
Exam 3 ..... 20%
Final Exam 30%
Attendance/Participation 10%

Grading scale: 90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D

Homework

Suggested homework will be provided from the textbook and worksheets that will be posted on Moodle. Homework will not be graded. Exams questions will be taken directly from homework.

The key to success in this course is to *attend class*, *read the text*, *do the homework problems*, and then *seek help on subjects you don't understand*.

Accommodations

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to http://www.ods.uno.edu.

Classroom Conduct

Cell phones should be turned OFF before entering class. Chronic tardiness will be penalized. Talking and other distracting behavior is not permitted during class. Asking questions and participating in class activities are encouraged. A number of active learning approaches will be used in class, so students should come to class prepared to be engaged in the material.

Academic Integrity

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at http://www.studentaffairs.uno.edu.

Plagiarism is a serious offense that can result in failure in a course and dismissal from the university.[1] Students must make special efforts to learn what constitutes plagiarism and how to properly utilize and cite the work of others.

"Plagiarize 1. To steal and use (the ideas or writings of another) as one's own. 2. To appropriate passages or ideas from (another) and use them as one's own . . . To take and use as one's own the writings or ideas of

[1] International students who are dismissed from the university can lose their visa status, requiring them to return to their home country.

another." - definition from *The American Heritage Dictionary of the English Language*, W. Morris, Ed. American Heritage Publishing Company, Inc. and Houghton Mifflin Company: New York, 1969.

Verbatim, or word for word copying, is the most obvious form of plagiarism. However, substantially copying the ideas or presentation of another, even when wording has been changed, can also constitute plagiarism.

The final exam will be evaluated using turnitin via Moodle. A similarity score of less than 15% is required. A submitted report with a similarity score higher than 15% will be further investigated to determine if plagiarism is involved. Up until the deadline of noon on Dec 8, the exam can be revised to decrease the similarity score. Papers will also be manually assessed for plagiarism.

Free Tutoring Available On-Campus from the UNO Learning Resource Center:

http://www.uno.edu/lrc/

Free Chemistry Tutoring Available in the Chemistry Learning Center - CSB 101

CHEM 2117 Fall 2015 - Approximate Course Schedule

Date	Chapter	Topic
Aug 20	0, 1	Introduction; Measurements, Units, and Conversions
Aug 25	3	Significant Figures, Error
Aug 27, Sept 1	4	Statistics
Sept 3	5	Calibration
Sept 8, 10, 15	6	Equilibrium
Sept 8		*Last day to drop a course (will not be recorded)*
Sept 17, 22, 24	8	Acid-Base Equilibria
Sept 29	**0, 1, 3-6, 8**	**EXAM 1**
Oct 1, 6, 8	17-20	Spectroscopy
Oct 13, 20	9	Polyprotic Acid-Base Equilibria
Oct 14		*Last day to drop a class with a grade of W*
Oct 15	*No Class*	*Fall Break*
Oct 22, 27, 29	10	Titrations
Oct. 30		*Spring registration opens*
Nov 3	**9, 10 17-20**	**EXAM 2**
Nov 5, 10	22-24	Separations
Nov 12, 17	13	Electrochemistry
Nov 19, 24	14	Potentiometry
Nov 26	*No Class*	*Thanksgiving Break*
Dec. 1	**13, 14, 22-24**	**EXAM 3**
Dec. 3	TBA	TBA
Due Dec 8 Noon	**Written Report**	**Research article from *Anal. Chem.* from 2010 or later**